WHAT IS CLAIMED IS:

1. A microstructured filter having an inlet for unfiltered fluid and an outlet for filtered fluid, the filter comprising:

a substantially flat base plate having a plurality of projections extending therefrom such that each projection is an integral component of the base plate, wherein the projections are spaced from one another by passages that form a fluid path through the filter from the inlet to the outlet; and

a cover plate securable to the base plate for covering the projections and the passages, wherein the plurality of projections are arranged in at least two rows to extend in a zig-zag configuration and in a mutually juxtaposed relationship across the filter.

2. The filter according to claim 1, wherein a spacing between the base plate and the cover plate is approximately as large as a width of the passages between adjacent projections.

3. The filter according to claim 1, wherein

a plurality of rows of projections are arranged in cascade form, such that a width of the passages perpendicular to the direction of flow of the fluid, as viewed in the direction of flow, decreases from row to row,

the projections which are arranged closer to the inlet side of the filter are larger than the projections which are arranged more at the outlet side of the filter,

and the spacing between the base plate and the cover plate in the area around each row of projections, which row is arranged in a cascade form is approximately as large as the width of the passages on the side of the projections, on which the fluid passes into the row of passages.

4. The filter according to claim 1, wherein the cover plate is substantially flat.

5. The filter according to claim 1, wherein a spacing between the base plate in the area around the projections and the cover plate within a row of projections is between half and double the passage width on the side of the projections, on which the fluid passes into the row of passages.

6. The filter according to claim 1, wherein mutually facing sides of two adjacent rows of projections define an interconnected space into which the fluid flows from all passages between the projections of a first row and out of which the fluid flows into all passages between the projections of the row following in the direction of flow.

7. The filter according to claim 1, wherein the projections are in the form of lands which, as viewed in the flow direction, are straight.

8. The filter according to claim 1, wherein the projections are in the form of lands which, as viewed in the flow direction, are curved.

9. The filter according to claim 1, wherein the projections are in the form of lands which, as viewed in the flow direction, are in the forms of columns.

10. The filter according to claim 1, wherein the passages are of substantially constant cross-section, and have a length that is at least twice as great as their height on the entry side of the fluid.

11. The filter according to claim 1, wherein the passages are of an approximately constant cross-section over the passage length, and are of a length of 5 μm to 50 μm, a height of 2.5 μm to 25 μm and a width of 2.5 μm to 25 μm.

12. The filter according to claim 11, wherein the passages have a substantially square cross-section.

13. The filter according to claim 1, wherein the passages have a barrel-shaped cross-section.

14. The filter according to claim 1, wherein the passages have a trapezoidal cross-section.

15. The filter according to claim 14, wherein a longer side of the trapezoidal passages is formed by the cover plate.

16. The filter according to claim 1, wherein the passages have an approximately square cross-section on the entry side of the filter that becomes wider towards the exit side of the filter.

17. The filter according to claim 1, wherein a spacing between the rows of projections is preferably twice as great as the passage width on the entry side.

18. The filter according to claim 1, wherein the zig-zag configuration comprises rows of projections inclined relative to each other through an angle alpha of between 2° to 25°.

19. The filter according to claim 1, wherein a spacing between the base plate in the area around the projections and the cover plate within a row of projections is substantially constant.

20. The filter according to claim 1, wherein a spacing between the base plate in the area around the projections and the cover plate within a row of projections is greater in the region of the end of the row which is in the proximity of the outlet of the filter than in the region of the end of the row which is in the proximity of the inlet of the filter.

21. The filter according to claim 1, wherein a spacing between the flat base plate in the area around the projections and the cover plate within a row of

projections linearly increases from the region of the end of the row which is in the proximity of the inlet side of the filter in a direction towards the region of the end of the row which is in the proximity of the outlet side of the filter.

22. The filter according to claim 1, wherein the base plate has been structured by one of a wet isotropic etching process and a dry isotropic etching process.

23. The filter according to claim 1, wherein the base plate has been structured by one of a wet anisotropic etching process and a dry anisotropic etching process.

24. The filter according to claim 1, wherein the base plate has been structured by a combination of isotropic and anisotropic etching processes.

25. The filter according to claim 1, wherein the base plate is silicon and the cover plate is glass, the base plate being joined to the cover plate by anodic bonding.

26. A nebulizer for inhalation therapy, the nebulizer comprising a microstructured filter having an inlet for unfiltered fluid and an outlet for filtered fluid, the filter comprising:

a substantially flat base plate and a cover plate that is securable thereto; and

a plurality of projections that each comprise an integral component of the base plate and which each project therefrom, the projections being spaced from one another by passages that form a fluid path through the filter from the inlet to the outlet, the cover plate when secured to the base plate covering the projections and the passages;

wherein the plurality of projections are arranged in at least two rows to extend in a zig-zag configuration and in a mutually juxtaposed relationship across the filter.

27. The nebulizer according to claim 26, comprising a nozzle in assembly with the filter.